

What is claimed is:

Sub B17
1. A method for discriminating among members of one or more taxonomic groups by hybridization analysis of operon subsequences either as DNA or as the RNA product(s) comprising the steps of:

a. determining operon subsequence reactivity by testing samples with each oligonucleotide probe under controlled stringency conditions at two or more temperatures relative to the probe's calculated or experimentally determined T_m or by other changes,

b. contacting individually one or more samples that may contain operon subsequences with one or more oligonucleotide probes,

c. incubating the probes and samples at various temperatures and other conditions such that increasing degrees of stringency are obtained,

d. assaying for hybridization of the probes to the samples in order to determine the relative level of reactivity of the combination of operon subsequences present in each sample.

2. The method of claim 1 for discriminating among the genera *Shigella* and *Escherichia* and their

SEQ ID NO 1
a species wherein probe Seq. ID: Number 1 has the sequence CAG CTT GCT CTT CGC TGA CG. and is used

3. The method of claim 1 for discriminating among the genera *Shigella* and *Escherichia* and their

SEQ ID NO 2
a species wherein probe Seq. ID: Number 2 has the sequence AAA GCA GCT TGC TCT TTG CT. and is used.

4. The method of claim 1 for discriminating among the genera *Shigella* and *Escherichia* and their

SEQ ID NO 3
a species wherein probe Seq. ID: Number 3 has the sequence CGA CGC AAC GCG AAG AAC TT. and is used

5. The method of claim 1 for discriminating among the genera *Shigella* and *Escherichia* wherein

SEQ ID NO 4
a probe Seq. ID: Number 4 has the sequence GAA GCT TGC TTC TTT GCT GAC. and is used

SEQ ID NOS 1, 2, 3, or 4
a 6. RNA sequences for probe Seq. ID: Numbers 1, 2, 3, or 4 wherein U substitutes for T. and is used

SEQ ID NOS 1, 2, 3, or 4
a 7. Variants through addition, subtraction, and/or modification of bases of probe Seq. ID: Number 1,

a 2, 3, or 4.

add B2
add D2

add F3
add H5